

The Center Line

North Dakota Local Technical Assistance Program • Upper Great Plains Transportation Institute • North Dakota State University

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Winter 2008

NORTH DAKOTA ASPHALT CONFERENCE

by Vernon Monger - ND LTAP

The North Dakota Asphalt Conference was held in Bismarck March 25-26. The event was sponsored by the North Dakota Department of Transportation (NDDOT), Dakota Asphalt Paving Association (DAPA) and the Local Technical Assistance Program (LTAP). Approximately 125 attendees representing contractors, consultants, NDDOT, counties and cities participated in the event.

The agenda included presentations on NDDOT research, asphalt marketing trends, pavement preservation and new technologies in the industry. In breakout sessions participants discussed recycled asphalt pavement (RAP) mix design, warm mix asphalt and wearing courses using Class S mix. Also, the cold-in-place recycle project on the Sheyenne River Valley Scenic Byway at Valley City was discussed by Kerry Johnson, Barnes County Road Superintendent and Ross Eberle, consultant for Kadrmas, Lee and Jackson, Inc. The project was completed in 2007. The session ended with Ken Swedeen, Dakota Asphalt Pavement Association, discussing the many changes taking place in the asphalt paving industry. With the changes occurring in the crude oil refining, the high costs of road materials and the limited funding for roads, states, counties and cities need to look for better ways of maintaining their roadway systems, he said.

During an evening banquet Mike Kopp, NDDOT, gave a presentation on the history of the Liberty Memorial Bridge at Bismarck. The bridge across the Missouri river will be removed later this year when the new bridge is completed.

This was the first asphalt conference held since they were discontinued about 15 years ago. Dave Levi, LTAP program manager, stated from the evaluations received that it was a worthwhile session. Plans are to continue the conference on an annual basis.

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WORKER VISIBILITY APPAREL

A greater risk of injury or death for highway workers has resulted from the increase of maintenance and reconstruction of the nation's highways. To help make work zones safer and provide additional safety to everyone on the roadway, FHWA recently finalized its proposed **Worker Visibility Rule**.

The rule requires that “all workers within the right-of-way of a Federal-aid highway who are exposed to either traffic or to construction equipment within the work areas shall wear high-visibility safety apparel.”

The rule is effective Nov. 24, 2008. Workers are defined as those people on foot whose duties place them within the right-of-way of a Federal-aid highway, such as highway construction and maintenance personnel, surveyors, utility crews, responders to incidents, and law enforcement personnel when directing traffic, investigating crashes, and handling road situations.

In addition, mowing crews, gardeners, Adopt-A-Highway volunteers, etc. will also have to wear the high-visibility clothing to be in compliance with the new rule.

The only exception will be law enforcement personnel during manhunts, traffic stops, and searches.

High visibility apparel means personal protective safety clothing that is intended to provide conspicuity during both daytime and night-time usage, and that meets the Performance Class 2 or 3 requirements of the ANSI/ISEA 107-2004 publication entitled “American National Standard for High Visibility Safety Apparel and Headwear.” **Rule 23 CFR Part 634** in the Code of Federal Regulations was published in response to SAFETEAU-LU and can be accessed at:

<http://a257.g.akamaitech.net/7/257/2422/01jan20061800/edocket.access.gpo.gov/2006/E6-19910.htm>

The selection of CLASS 1, 2 or 3 apparel is based on proximity to traffic, the speed of traffic expected in a work area and whether attention can be paid to traffic while working.

CLASS 1 APPAREL

This apparel is for workers exposed to traffic traveling less than 25 MPH and, therefore, not acceptable for workers on or near Federal Aid Highways. The main difference between CLASS 1 and 2 is the amount of fluorescent background material and retroreflective material used on the clothing. Typical workers required to wear CLASS 1 include parking lot attendants, warehouse workers, shopping cart retrievers, and sidewalk maintenance personnel.

CLASS 2 APPAREL

The most common garments are shirts, jackets, or sleeveless vests. This apparel provides 360 degrees of torso visibility with horizontal and vertical retroreflective stripes. Typical occupations for workers who must wear CLASS 2 are: forestry operations, roadway construction, trash collection, high-volume parking, emergency response, and law enforcement. Some “safety” vests look similar to CLASS 2 so you must inspect the tag to be sure it complies to avoid violations.

CLASS 3 APPAREL

CLASS 3 covers more of your body than CLASS 2. It is for workers who are constantly exposed to high-speed traffic and who cannot pay attention to approaching traffic. If you are not sure which class to wear, choose CLASS 3 to be safe. Workers who must wear this type include roadway construction personnel, utility workers, survey crews, and emergency responders.



NORTH DAKOTA ASSOCIATION OF COUNTY ENGINEERS 58TH ANNUAL INSTITUTE

The North Dakota Association of County (NDACE) held its 58th Annual Institute Jan.30 – Feb.1 at the Minot Holiday Inn. Approximately 150 county representatives from counties, consulting engineer firms and industry attended the convention.

The Annual Institute is an opportunity to advance county engineering and management by providing a forum for exchange of ideas and information aimed at improving the county engineering profession. The association is aware of the need to be ever-vigilant to changing technologies and ideas to improve the way they serve their communities.

Dave Levi, ND LTAP Program Manager and Denise Brown, ND LTAP Administrative Assistant presented the awards to the 2007 Road Scholar Graduates.

Road Scholar Level 1: Todd Miller, Stark County

Road Scholar Level 2: Richard Urvand, Nelson County

Kevin Fieldsend, Ramsey County

**Good
Job!**



Kevin Fieldsend, Todd Miller, Richard Urvand



Scoop the Skunk - Road Kill Challenge



NATIONAL ROADWAY SAFETY AWARDS

by Dave Levi - Program Manager ND LTAP



The Roadway Safety Foundation and the Federal Highway Administration co-sponsor the National Roadway Safety Awards Program bi-annually. The program is designed to recognize safety programs from across the country for excellence and innovation in operations, planning and roadway design to reduce fatalities and injuries on our nation's highways. The Roadway Safety Award recipients are evaluated on three criteria - innovation, effectiveness, and efficient use of resources. Program categories included infrastructure improvements, operational improvements, and program planning, development and evaluation.

Following are the web-site links for the 2005 and 2007 National Roadway Safety Awards - Best Practices Guides. These guides are sponsored by the Roadway Safety Foundation [http://www.roadwaysafetyawards.org/](http://www.roadwaysafetyawards.org/Docs%20and%20Downloads/2005SafetyBestPracticesGuide.pdf) and are an excellent resource for others challenged with unsafe roadway conditions. The guides summarize each of the winning programs and describe how the program improved roadway safety.

Please take a moment to review the brochure on the Roadway Safety Awards web-site. Feel free to contact the agencies and organizations involved for more information if you think the winning safety program might have application in your area.

2005 National Roadway Safety Awards - Best Practices Guide

<http://www.roadwaysafetyawards.org/Docs%20and%20Downloads/2005SafetyBestPracticesGuide.pdf>

2007 National Roadway Safety Awards - Best Practices Guide

http://www.roadwaysafetyawards.org/Docs%20and%20Downloads/2007_awds.pdf

2008 "You Show Us How" Contest

It is again time for county road departments to think about our fall "YOU SHOW US HOW" contest. The contest is conducted annually in conjunction with several states at the regional local roads conference in Rapid City. This program has been going since 1994 and has inspired many new ideas and inventions which have been shared with our counterparts. Last year Larry Halvorson and his road department crew from Towner County were the winners.

We are looking for new techniques, inventions and procedures that you have come up with to make a job more efficient and effective. Last year we had several entries from the counties. The winner will be printed in our newsletter.

If you need further information or assistance in preparing a submittal, contact the LTAP office. Submittals must be received by August 15.

WINTER WORKSHOPS



ND LTAP Advisory Board

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Mark Berg (City of Bismarck)

Mike Grafsgaard

(City of Devils Lake)

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State DOT Representatives

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NDIRF Representative

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County Representatives

Jon Mill (Burleigh County)

Ron Wagner (McLean County)

Township Representative

Ken Yantes

Consultant Representative

Barry Schuchard, PE

(Kadrmass, Lee & Jackson Inc)

Please check the ND LTAP
website for any workshop updates
<http://www.ndltap.org>

TLN website
<http://www.translearning.org>

Looking for your ideas and news articles

Contact Dave Levi at
(701) 328-9857 or
dave.levi@ndsu.edu
to share your ideas and
articles for upcoming
editions of The Center Line.

ANOTHER “YOU SHOW US HOW” 2007 CONTESTANT

CULVERT INSTALLATION LIFTING DEVICE

COUNTY: Oliver

CONTACT PERSON: Francis Pulver, Highway Superintendent
TELEPHONE: 701-794-3172
ADDRESS: PO Box 188
Center, ND 58530

PROBLEM STATEMENT:

Sections of large culverts and cattle passes are cumbersome to handle and difficult to set in place. What has been done in the past is to drop a chain through the hole in the section of culvert, insert a rod through the chain in the inside of culvert section and then attach the other end of chain to the loader or lifting device and then move into place. While this works, it is not the most effective or efficient means of placing the culvert sections since the operator does not have good control of the culvert’s movement.

SOLUTION:

The equipment operators at the shop made a device as shown in the photo, to make a firm attachment to the culvert. A one inch bolt (as shown) is inserted through the culvert top (drop hole) and firmly fastened to the culvert section. With a clevis on the other end, the chain is attached here and used to set the culvert and/or cattle pass into place. Normally the county uses a front end loader (quick hitch) for doing this. Using this device, there is less movement of the culvert section during the move and the operator has better control. Very little manual assistance is needed to guide each section into place. Also, the time required to install a culvert/cattle pass is much less because each section can be set into place quickly.

LABOR, MATERIALS AND COST:

The materials needed for this were available around the shop and no new materials were purchased. A small amount of time (2 hours) was required to design and weld the metal plates and bolt together.

SAFETY:

With better control while transporting the culvert/cattle pass section to the installation site, there is less chance for injury to the workers. Previously more effort was required to guide the sections into place. The operator can now guide the section into place with the controls on the loader, requiring very little effort by the other workers, therefore avoiding possible injuries.

Watch for
more contestant
enteries in our next
newsletter.



COAL BOTTOM ASH – ROADWAY MATERIAL

by Ron Wagner -Supt. of Highways, McLean County

One of the advantages of having a coal fired power plant in your county is the use of a by-product called bottom ash. Coal bottom ash is a coarse, granular, incombustible product that is generated from coal-fired power plants. In McLean County we have the Coal Creek Station that is owned and operated by Great River Energy. It burns about 8 million tons of coal each year. With that amount of coal being burned there are tons and tons of bottom ash available. Because it is a waste product McLean County has access to this by-product at no cost. The bottom ash comes out of the plant very wet, but once it is stockpiled and allowed to dry it can work very effectively.

Over the years we have put it to use in several ways. Mix with salt and use it for deicing on our pavement system. It works well with its dark gray color and semi coarse texture and seems to stick well to the road tops. Approximately a 6 to 7 percent salt mixture is used.

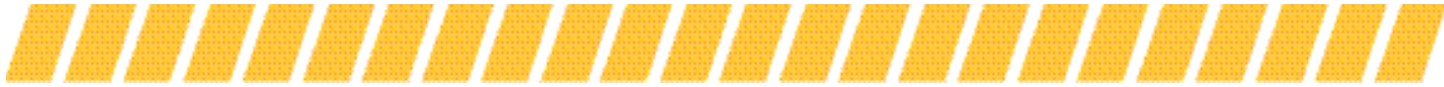
Another important use is base stabilization on our road system. Many times, especially in the spring, we have areas on our gravel roadway system that get soft or broken out due to heavy traffic loads. The saturated or non-firm material is removed and replaced with bottom ash to help get the road stabilized and traffic flowing safer. The disturbed area is then covered with two or more inches of gravel.

The entire county maintenance yard at Washburn has a bottom ash base with 2 to 3 inches of aggregate over it. The aggregate cover is necessary to keep the dust down as bottom ash becomes very dusty when dry.

Bottom ash is also used during culvert installation and maintenance. When existing materials are too wet to use as fill material, the bottom ash is placed as bedding for the culvert and also for side compaction on the culverts.

We have spread bottom ash on road surfaces to replace gravel but the roadway must be very low volume because the material is very fine. With dry conditions, traffic will create dust, causing material to be lost.





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